

CLAIMS:

1. (Previously Presented) A method of restoring data to a first storage device, comprising:

providing data in the first storage device at a first storage area of a first type that contains sections of data;

providing data in a second storage device at a second storage area of a second type wherein the second type is a virtual storage area that has, for each section of data thereof, at least one of: a pointer to a corresponding section of data of the first storage area and a pointer to corresponding section of data of a third storage device at a third storage area of the first type, wherein prior to writing new data to a section of the first storage area pointed to by a pointer of the second storage area, data of the section of the first storage area is copied to a section of the third storage area and the pointer of the second storage area is adjusted to point to the section of the third storage area;

providing data in a fourth storage device having at least one other storage area of the second type; and

for each particular section of data of the second storage area having a pointer to the third storage area, providing to a corresponding section of the first storage area an indirect pointer to a corresponding section of the third storage area if no storage areas of the at least one other storage area point to the corresponding section of the first storage area.

2. (Original) A method, according to claim 1, further comprising:

for each particular section of data of the second storage area having a pointer to the third storage area, providing to a corresponding section of the first storage area a doubly indirect pointer to a corresponding section of the third storage area if the at least one other storage area points to the corresponding section of the first storage area.

3. (Original) A method, according to claim 2, further comprising:

causing data to be copied from the third storage area to the first storage area for each section of the first area having associated therewith one of: an indirect pointer and a doubly indirect pointer.

4. (Original) A method, according to claim 3, further comprising:

in response to a particular section of the first storage area having associated therewith a doubly indirect pointer, copying data from the particular section of the first storage area to a new section of the third storage area prior to causing data to be copied to the particular section of the first storage area.

5. (Original) A method, according to claim 1, further comprising:

prior to replacing a corresponding section of the first storage area, disabling access to the first storage area and the second storage area.

6. (Original) A method, according to claim 5, further comprising:

after replacing a corresponding section of the first storage area for all of the particular sections of data of the second storage area having a pointer to the third storage area, enabling read and write access to the first storage area and enabling read access to the second storage area.

7. (Original) A method, according to claim 5, further comprising:

after replacing a corresponding section of the first storage area for all of the particular sections of data of the second storage area having a pointer to the third storage area, enabling read and write access to the first and second storage areas.

8. (Previously Presented) A method, according to claim 1, wherein the first storage device, the second storage device, the third storage device, and the fourth storage device are provided by a single physical storage device.

9. (Original) A method, according to claim 8, wherein the sections are tracks.

10. (Previously Presented) Computer software, provided in a computer-readable storage medium, that restores data to a first storage area of a first type that contains sections of data from a second storage area of a second type that is a virtual storage area that has, for each section of data thereof, at least one of: a pointer to a corresponding section of data of the first storage area and a pointer to corresponding section of data of a third storage area of the first type where there is at least one other storage area of the second type, the software comprising:

executable code that, prior to writing new data to a section of the first storage area pointed to by a pointer of the second storage area, copies data of the section of the first storage area to a section of the third storage area and adjusts the pointer of the second storage area to point to the section of the third storage area;

executable code that iterates through each section of the second storage area; and

executable code that provides to a corresponding section of the first storage area an indirect pointer to a corresponding section of the third storage area if no storage areas of the at least one other storage area point to the corresponding section of the first storage area.

11. (Original) Computer software, according to claim 10, further comprising:

executable code that provides to a corresponding section of the first storage area a doubly indirect pointer to a corresponding section of the third storage area if the at least one other storage area points to the corresponding section of the first storage area.

12. (Original) Computer software, according to claim 11, further comprising:

executable code that causes data to be copied from the third storage area to the first storage area for each section of the first area having associated therewith one of: an indirect pointer and a doubly indirect pointer.

13. (Original) Computer software, according to claim 12, further comprising:

executable code that copies data from the particular section of the first storage area to a new section of the third storage area prior to causing data to be copied to the particular section of the first storage area in response to a particular section of the first storage area having associated therewith a doubly indirect pointer.

14. (Original) Computer software, according to claim 10, further comprising:

executable code that disables access to the first storage area and the second storage area prior to replacing a corresponding section of the first storage area.

15. (Original) Computer software, according to claim 14, further comprising:

executable code that enables read and write access to the first storage area and enabling read access to the second storage area after replacing a corresponding section of the first storage area for all of the particular sections of data of the second storage area having a pointer to the third storage area.

16. (Original) Computer software, according to claim 14, further comprising:

executable code that enables read and write access to the first and second storage areas after replacing a corresponding section of the first storage area for all of the particular sections of data of the second storage area having a pointer to the third storage area.

17. (Original) Computer software, according to claim 10, wherein the storage areas are devices.

18. (Original) Computer software, according to claim 17, wherein the sections are tracks.